

In the Claims

Please amend claim 1, as shown. This listing of the claims will replace all prior versions, and listings of the claims in the Application.

1. (Currently Amended) A bioactive, biodegradable, resorbable fibrous composite of gel-like oxide materials and biodegradable polymers, the fibrous composite comprising: a plurality of hollow-core fibers self-assembled into [[as]] a sizable fibrous preform comprising pores in [[an]] a conductive interconnecting-porous configuration, wherein (i) nanopores ranging in size from 1.5 to 10 nm in diameter are on the surface of the interconnected fibers; and wherein the resulting fibrous composite has an overall surface area of greater than 1000 m²/g; and (ii) mesopores and macropores are interspaced between and among the interconnecting fibers of the porous configuration, wherein interfiber pore size ranges from 0.5 to 10 times fiber diameter providing fluid transport in <10 minutes.
2. (Previously Presented) The fibrous composite of claim 1, comprising silica and other oxides.
3. (Previously Presented) The fibrous composite of claim 2, wherein the oxides are selected from the group consisting of SiO₂, TiO₂, ZrO₂ and Ta₂O₅.
4. (Previously Presented) The fibrous composite of claim 3, wherein silanol (SiOH) and similar metal-OH groups form on the oxide surfaces.
5. (Previously Presented) The fibrous composite of claim 1, wherein the biodegradable polymers are selected from the group consisting of polylactic acid (PLA), polyglycolic acid (PGA), poly(lactic-co-glycolic) acid (PLGA) copolymer, dextran, collagen, poly(p-dioxanone), and poly(propylenefumarate), as well as mixtures thereof, and co-polymers thereof.
6. (Previously Presented) The fibrous composite of claim 1, further comprising a bioactive agent or therapeutic composition.
7. (Previously Presented) The fibrous composite of claim 6, wherein the bioactive agent comprises bone morphogenic protein, bone growth enhancing factors, drug, growth hormone, vitamin, extract, demineralized bone matrix, dye, genetic material, or combinations thereof, from natural or recombinant sources.

Claim 8. (Cancelled)

9. (Previously Presented) The fibrous composite of claim 1, wherein the fibers are porous, and wherein at least 30% of the porous fibers are hollow.

10. (Previously Presented) The fibrous composite of claim 9, wherein at least 50% of the porous fibers are hollow.

11. (Previously Presented) A bioactive, biodegradable, controlled-release delivery system comprising the fibrous composite of claim 1 and a bioactive agent or therapeutic composition incorporated therein for release from the system upon degradation of the biodegradable fibrous composite.

Claims 12-19. (Cancelled)

20. (Previously Presented) A method for delivering a bioactive agent or therapeutic composition in or to an animal using the fibrous composite of claim 1, comprising:
incorporating the bioactive agent or therapeutic composition within the fibrous composite; and
administering to the animal the fibrous composite and the bioactive agent or therapeutic composition incorporated therein.

Claims 21-26. (Cancelled).

27. (Previously Presented) The method of claim 20, wherein the animal is a human.

28. (Previously Presented) The method of claim 20, wherein the bioactive agent comprises a drug, growth hormone, bone growth enhancing factor, vitamin, extract, demineralized bone matrix, bone morphogenic protein, dye, or genetic material, or combinations thereof, from natural or recombinant sources.

29. (Previously Presented) A method for delivering a bioactive agent or therapeutic composition in or to an animal using the delivery system of claim 11, comprising:
administering to the animal the fibrous composite and the bioactive agent or therapeutic composition incorporated therein; and
effecting release in the animal of the incorporated bioactive agent or therapeutic composition upon degradation of the biodegradable fibrous composite.

30. (Previously Presented) The method of claim 29, wherein the animal is a human.

31. (Previously Presented) The delivery system of claim 11, wherein the bioactive agent comprises a drug, growth hormone, bone growth enhancing factor, vitamin, extract, demineralized bone matrix, bone morphogenic protein, dye, or genetic material, or combinations thereof, from natural or recombinant sources.

Claims 32-36. (Cancelled).